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DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

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W. Kelly
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DIVISION OF
OIL, GAS & MINING

May 22, 1989

Mr. Ken Kluksdahl
Mine Manager, Gold Strike Mine
Tenneco Minerals
P.O. Box 2650
St. George, Utah 84770

Re: Sulfide Minerals, Gold Strike Mine

Dear Sir:

This letter is a partial response regarding your letter of March 13, 1989, about sulfide minerals at the Gold Strike Mine near St. George, Utah. The sulfide matter has been discussed briefly with Mr. Bob Bayer of JBR Consultants.

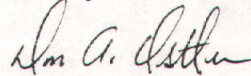
Your plans for neutralization of acid forming sulfide minerals are satisfactory subject to fulfillment of the requirements of the Division of Oil, Gas and Mining. However, impacts of the neutralization products are a matter of concern to us. Sulfate salts are formed when the acid is neutralized. Since the ore material will have an average acid forming potential of 39 tons/1000 tons, considerable amount of sulfate ions will be available for percolation to the water table. The sulfate formation must be prevented or retarded. Several possible solutions to this problem were discussed with Mr. Bob Bayer, JBR Consultants. One possibility is the placing of a clay cap over the mixture of sulfide and limestone to exclude moisture. Other viable options must be explored by Tenneco.

We welcome your plans for a bio-oxidation pilot plant for leaching sulfide ores at the Gold Strike site. However the problem of inadvertent leaking of sulfate solutions to the ground water must be mitigated. When you are ready to proceed with your plans, you may meet with our staff, to determine what we will require. This meeting may save you time and effort.

Ken Kluksdahl
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Although the Gold Strike site is an arid, sparsely populated area, the Bureau desires to protect useable water for possible future use. If you have any further questions, please contact Mack Croft at 538-6146.

Sincerely,



Don A. Ostler, P.E., Director
Bureau of Water Pollution Control

MGC:slb

cc: Wayne Thomas, St. George
JBR Consultants, SLC
Lowell Braxton, Division of Oil, Gas and Mining

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